

A B S T R A C T

Problems: The invention provides a method and an apparatus for measuring a flow rate which can determine a
5 flow rate of a fluid, particularly a slowly flowing fluid, with an improved accuracy, without requiring a complicated flow rate-measuring system.

Invention: A system for measuring a flow rate of a fluid flowing within a tube is composed of an upstream
10 side piezoelectric element and a downstream side piezoelectric element mounted on a surface of a tube and is operated by applying an impulse voltage to one piezoelectric element to generate a shock to produce a shock wave in the fluid moving in the tube; receiving the shock
15 wave transmitted through the fluid by another piezoelectric element and then applying an impulse voltage to the latter piezoelectric element to generate a shock to produce a shock wave in the fluid in the tube and receiving the shock wave transmitted through the fluid by
20 the former piezoelectric element; and comparing the received waves to determine the flow rate of the fluid, in which the flow rate of the moving fluid is determined by processing the received waves based on a newly discovered phenomenon in that there is a relationship
25 between a flow rate of fluid and a wave height or an integral value of a composite wave; otherwise the flow rate of a moving fluid under measurement can be determined according to a difference of periods of time required for transmitting the shock waves.

30 Selected Drawing: Fig. 1